

Curriculum Vitae

Sergei Ivanovich Blinnikov

Home address: 115563, Moscow, Russia,
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Date of birth: 25 November 1948
Place of birth: Okha, Sakhalin Island, Russia, USSR
Marital status: married, wife Blinnikova Elena
Nationality: Russian
Sex: male

Current permanent position

Principal Scientist,
Laboratory for Astrophysics and Plasma Physics of the
National Research Center “Kurchatov Institute” –
Institute for Theoretical and Experimental Physics (ITEP)
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Education

1966-1972 Student of Moscow State University,
Department of Physics and Sternberg Astronomical Institute.
1972-1975 Graduate student of Moscow State University,
Department of Physics, Sternberg Astronomical Institute,
and Keldysh Institute of Applied Mathematics.
Supervisors: Ya.B.Zeldovich and G.S.Bisnovatyi-Kogan

The PhD thesis

“The equilibrium and stability of rotating stars”
defended in 1975 at Moscow State University — Sternberg Institute.

The 2nd dissertation — Dr. Phys.Math.Sci.

“Non-stationary radiative and hydrodynamic processes in supernovae”
defended in 2000 at Moscow State University — Sternberg Institute.

Employment

1975-1979 Junior sci.staff member at the Laboratory for
Relativistic Astrophysics,
Space Research Institute, Moscow, USSR,
1979-1989 Senior sci.staff member,
ITEP, Moscow, 117259, Russia
1989 – 2016 Head scientist,
2016 – now Principal scientist,
ITEP, Moscow, 117218, Russia
1990/04-06, 1991/11-1992/09, 1994/03-06, Visiting Scientist at Max-Planck Institute for Astrophysics

1995/10-12, 1996/03, 1997/10, 1998/08, 1999/06-08, 2000/07-08, 2001/09-10, 2002/08-09, 2003/09-10, 2004/05-06, 2005/03-11, 2006/06-07, 2007/08-09, 2008/08, 2009/08-09, 2010/07-08 2011/08-09, 2012/07-08	Garching, Germany
1993/03-04	Visiting Scientist at Copenhagen University Observatory Copenhagen, Denmark
1993/09-11, 1995/03-04, 1999/03-04, 2001/03-05, 2004/07-09, 2007/05-06	Visiting Scientist at Lick Observatory, University of California Santa Cruz, California, USA
1996/04, 1998/05, 1998/12, 2001/11-12	Visiting Scientist at Stockholm University Observatory Saltsjöbaden, Sweden
1996/09-11	Visiting professor at NAO Mitaka, Tokyo, Japan
1997/02 and 06-07, 2006/09-11, 2007/10-12	Visiting professor at Tokyo University Tokyo, Japan
1999/12 – 2000/05, 2003/02 – 2003/05, and 2013/04 through 2013/05 2008/11 through 2009/04, 2010/12 through 2011/02, and 2012/02, 2014/04 through 2019/04	Visiting professor at Osaka University Osaka, Japan Scientific Associate, Institute of Physics and Mathematics of Universe, Tokyo University, Kashiwa, Chiba, Japan

Partly employed in 1993-2006 as a senior, and 2007-2016 as a head scientist by
Sternberg Astronomical Institute, Moscow State University, 119992, Moscow, Russia

Partly employed in 1999-2015 as associated professor by
Moscow Physics Technical Institute, Moscow, Russia

Partly employed in 2011-2013 as a head scientist by
Physics Department, Novosibirsk State University, Novosibirsk, Russia

Partly employed in 2013-2019 as a head scientist by
All-Russia Research Institute of Automatics (VNIIA), Moscow, Russia

Research

Stellar rotation: designed two different self-consistent methods for arbitrary fast rotation, developed a static criterion of stability.

Accretion onto compact objects: developed the first model of accretion disk corona.

Collapse and explosion of stars: studied heating effects for kinetics of neutronization during collapse, spherization of supernova remnants in uniform medium, developed first GRB scenario in merging neutron star binary.

Neutrino properties: found reliable upper limits on neutrino magnetic moments from evolution of white dwarf stars.

Astrophysical effects of hypothetical particles and interactions: developed first cosmological models of mirror matter as dark matter, models of GRBs as mirror matter stars.

Non-equilibrium radiative transfer: algorithms for numerical computations of supernova light curves of all types, shock-breakout effects, averaging spectral line opacity in expanding medium.

Theory of flames: non-linear numerical models for Landau instability and fractalization of flames.

X-ray emission of supernova remnants: models of non-equilibrium time-dependent ionization consistently coupled to hydrodynamics with account of cosmic rays.

Quantitative models of most luminous type II_n supernovae.

Awards etc.

Awards for “Student research work” and “Red” diploma for excellence at Phys.Dep. MSU, awards for “Young scientist research” at IKI (Space Research Inst.), for scientific competition at ITEP; the best theoretical paper of year 2007, 2016, 2017 at ITEP; two signs (medals) for excellence from Atomic Energy Ministry in Russia. 2010 Prize of MAIK Nauka for the best book of year.

REVIEWING EXPERIENCE

Nature, Astrophysical Journal, MNRAS, Astronomy and Astrophysics, High Energy Density Physics, New Astronomy, Astroparticle Physics, Physics Uspekhi, Physics of Atomic Nuclei, Astronomy Letters, JETP Letters, Astronomy Reports.

PROFESSIONAL MEMBERSHIPS

IAU Member, Supernova Commission of IAU,

Advisor of ITEP Winter School,

Co-chair of all-Moscow Astrophysical Seminar,

Member of scientific and dissertation councils of ITEP.

Member of SOCs at many astrophysical conferences in Russia and abroad.